ExxonMobil

A Report on Energy Trends, Greenhouse Gas Emissions and Alternative Energy

February 2004

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Projections, targets, expectations, estimates and business plans in this report are forward-looking statements. Actual future results, including energy demand growth and mix; economic development patterns; efficiency gains; resource recoveries; capital expenditures; technological developments; emission reductions; and project plans and schedules could differ materially due to a number of factors. These include changes in market conditions affecting the energy industry; changes in law or government regulation; unexpected technological developments; and other factors discussed in this report and under the heading "Factors Affecting Future Results" in Item 1 of ExxonMobil's latest Form10-K and on our Web site at www.exxonmobil.com. References to resources in this report include quantities of oil and gas that are not yet classified as proved reserves but that, in the case of ExxonMobil figures, we believe will ultimately be produced. Additional information on terms used in this report, including our calculation of Return on Capital Employed, is available through our Web site under the heading "Frequently Used Terms."

Introduction

Governments, our customers and shareholders, and the public at large are deeply interested in the issues related to the supply and cost of energy and the effects of energy use on the environment.

Interest in these subjects is understandable and appropriate because access to reliable, environmentally safe and affordable energy is vital to the economic prosperity and quality of life of people around the world. Our company role is to help provide this energy, and in doing this job well we make a significant contribution to human progress.

In this report we describe what we see as the business challenges and opportunities that are associated with likely energy trends, greenhouse gas emissions and alternative energy options. We also review the actions we are taking now to safeguard shareholder interests and to provide for future business opportunities.

ExxonMobil's approach to investments provides significant assurances to shareholders. Some of the key business considerations that underlie our approach include the use of proven science, a focus on cost/benefit analysis, emphasis on energy conservation and efficiency, strong investment discipline and consistency with our core competencies.

The issues relating to greenhouse gas emissions and alternative energy are complex, and varying points of view exist on how to address these subjects. Complex business issues are not new to our company, and we have gained considerable experience in successfully managing them.

The first section of this report describes the central importance of energy to economic growth and improved standards of living. We present our view of future energy needs and trends. You will read that most experts predict that the world will require about 40 percent more energy in 2020 than today and consumption levels will reach almost 300 million oil-equivalent barrels every day. This is equivalent to the energy required to drive a mid-sized American car 378 billion miles, a distance equivalent to 2,000 round trips between the earth and the sun. Developing reliable, affordable supplies to meet this energy demand will be an enormous challenge. Meeting future demand while taking actions to reduce greenhouse gas emissions will make this challenge even greater.

In the subsequent sections we will describe the specific actions ExxonMobil is taking in response to these challenges, with an emphasis on our plans for reducing greenhouse gas emissions.

In the nearer term, we support energy efficiency and conservation as important strategies that will prolong the availability of current energy resources. For example, we are deeply involved in improving the energy efficiency of our own operations as well as in developments that will help consumers use our products more efficiently.

For the longer term, our research emphasis is on breakthrough ideas applicable to our core business. We are supplementing our internal research through cooperative efforts with universities and research centers and through partnerships with other corporations. We believe that by working closely with leading academics, energy experts and other technologically advanced companies, we will contribute to the development of better answers to meeting the world's future energy needs.

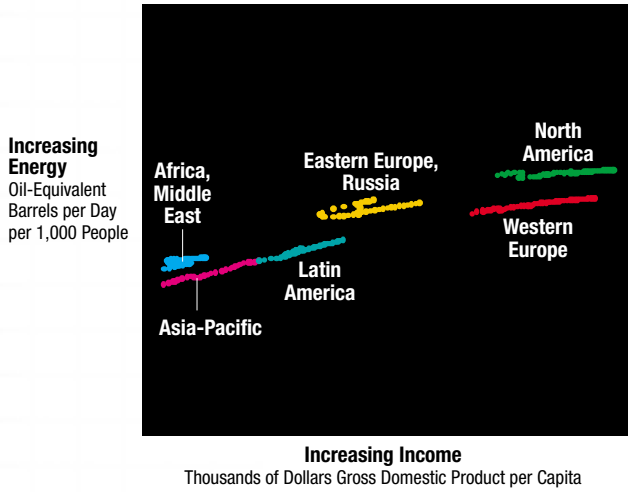
The final section of the report discusses alternative energy options and our views on some of the issues currently existing with large-scale deployment of each of the alternatives. The central message in this section is that we believe investments in *current* renewable energy technology are not economical. As a result, our primary focus with regard to renewables is on research to accelerate the development of future options.

We are publishing this report because we believe it is important to be straightforward and open about our views on issues — such as climate and renewables — that can affect both our business and society. We believe that only by relying on careful business analysis and by speaking with candor can we ensure, over the long run, a positive reputation for the company.

Understanding and projecting energy supply and demand trends are important elements of ExxonMobil's strategic planning process. In fact, recognizing their importance, we have for the past several decades annually produced a comprehensive energy outlook that typically covers the next 20 or more years.

The world's demand for energy is very large and growing. Meeting this demand will present significant challenges.

GDP Growth and Energy Closely Linked
1970-2020



Note: GDP and energy use are shown in logarithmic scale.

Key conclusions from our assessment of the energy outlook include the following:

- Energy use and economic growth are closely linked, as shown in the chart above.[1] The relationship shown is consistent across all regions and countries and represents the trajectory that developing countries will likely follow as they progress toward industrialization. Modern uses of energy are so closely linked to growth because, among many other advantages, they provide the basis for all modern forms of transportation, are needed for both the materials and the processes used in construction, and underpin the mechanization and improved efficiency of agriculture.

- Eighty percent of the energy growth from 2000 through 2020 will be devoted to improving living standards in many parts of the developing world, where about 85 percent of the world's population will live in 20 years.

- By 2020, we expect that the world will require about 40 percent more energy than today. By then the world's consumption is likely to approach 300 million barrels of oil-equivalent energy every single day. We expect that 60 percent of this 2020 demand will continue to come from oil and gas as these primary sources of energy are available in sufficient quantity to meet the world's growth and are, at the same time, the most economical.

Sizable increases in energy demand are projected despite likely continued improvements in energy efficiency. In total, we expect these efficiencies to be about 1 percent per year, because of improved vehicles, power plants, construction standards and other actions. If gains were achieved at only half this rate, the world would consume about 30 million *additional* barrels of oil-equivalent energy per day, close to the amount used by western Europe today.

Meeting higher energy demands will require a portfolio of energy options including oil, gas, coal, nuclear, hydro, biomass, solar and wind.[2] The contribution of each is shown in the three-panel chart at the top of pages 4 and 5.

- The expected contribution of non-petroleum-based energy to meeting world demand is detailed in the chart at top right, page 4. Hydropower will grow, though it is site-limited. Nuclear power is projected to grow at only about 0.4 percent per year, reflecting announcements in several industrial countries, including Germany[3] and the United Kingdom,[4] of expectations regarding the gradual phase-out of nuclear power. The majority of the biomass category is developing countries' use of traditional fuels (wood, dung) and developed countries' use of wood waste and garbage.

How We Develop Our Energy Outlook

To help develop a sound basis for corporate strategies and plans, we employ a team of energy planners dedicated to developing and refining our own long-term outlook. These employees have diverse backgrounds in engineering, marketing, economics, oil and gas exploration, refining and chemicals operations, research and development, and public policy.

In developing our outlook, we utilize a comprehensive database to analyze past economic and energy trends, and to guide future forecasts. The database includes a vast amount of economic and energy data and enables us to assess energy demand, efficiency and conservation, fuel-buying patterns, demographics, and much more. We also develop and use detailed forecasting models and assessment tools to estimate energy demands for major fuels and consuming sectors at a country level.

In forecasting an energy outlook to 2020, some assumptions may be specific to individual countries, whereas others reflect expectations or trends that are independent of political borders. We also consider the relative competitiveness of alternative fuels, and the significant but yet-to-be-achieved advances and deployment of new technologies.

In addition, we incorporate the input of a wide variety of third-party economic and energy experts and work with other companies, including those in the automotive and power-generation sectors.[5] From these services and companies, our energy-planning group builds its knowledge base and — as appropriate — incorporates third-party perspectives into our projections.

By seeking the views of others and consulting with public and private groups interested in energy issues, we find that our energy outlook is fundamentally consistent with those of most knowledgeable experts. This group includes, among others, the International Energy Agency (IEA),[6] U.S. Department of Energy — Energy Information Agency,[7] European Commission's World Energy, Technology and Climate Policy Outlook — Reference Scenario,[8] and the recent National Petroleum Council's North America natural gas study.[9]

- The outlook for wind and solar energy is for double-digit growth, based on both continued public subsidies and technological advances. However, because they start from a very small base, their combined contribution to total energy supplies is likely to still be less than 0.5 percent in 2020.

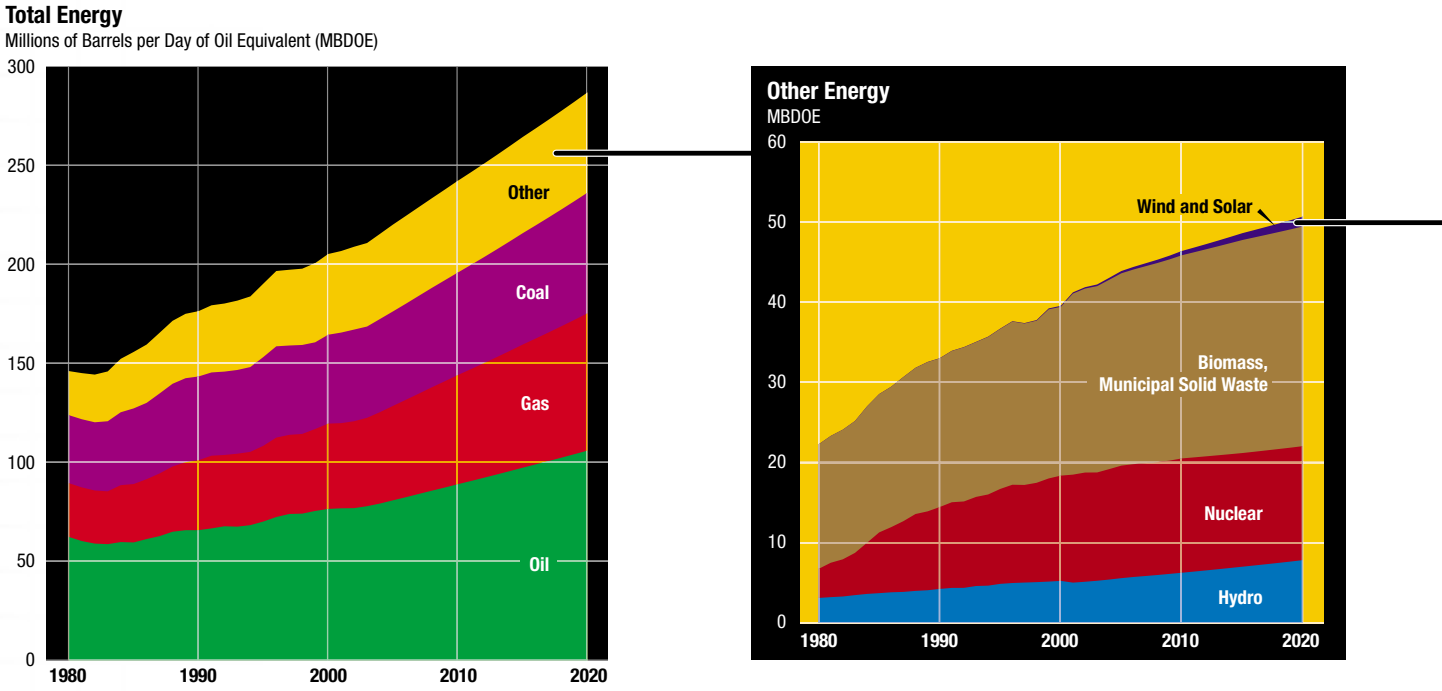
Because 80 percent of the world's growth in energy demand through 2020 will be in developing countries, 80 percent of the growth in carbon emissions will also be in the developing world. As a result, actions to reduce carbon emissions must include consideration of the world as a whole.

It remains critical to the understanding of energy supply that a majority of energy will continue to be based on conventional oil and gas and that energy demand will be growing overall. Supplying the expected increase in oil and gas energy demand will be a major challenge. Nevertheless, abundant oil and gas resources exist:

- Estimates of the total oil and gas resource base have increased as a result of access to new areas and technology.[10]

- The conventional resource base is very large and is likely to continue to be the primary source of energy through at least the middle of the century. In the U.S. Geological Survey's *World Petroleum Assessment 2000*, the conventional recoverable liquids resource base is estimated to be about 3 trillion barrels of oil.[11]

Oil and Gas Remain as Predominant Energy Sources

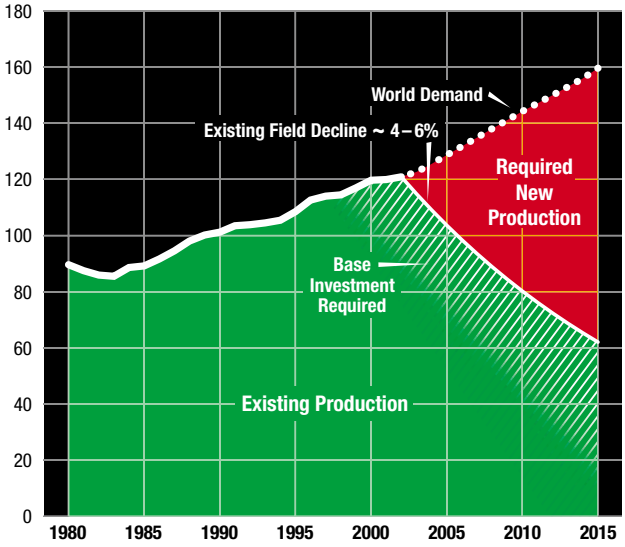


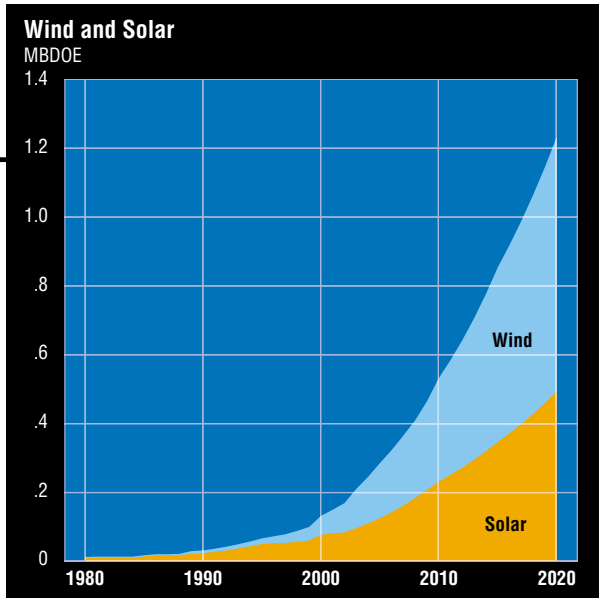
- In addition to conventional resources, there are significant unconventional resources. Unconventional oil includes extra-heavy oil, oil sands and other resources that cannot be produced using traditional methods. The International Energy Agency has compiled estimates that indicate there are more than 4.3 trillion barrels of unconventional oil resources in place. Recoverable estimates for Canada and Venezuela alone are estimated at 580 billion barrels.[12]

- To put this volume into perspective, less than 1 trillion barrels of petroleum has been produced since production started in the 1800s.[13]

- New technologies will likely continue to extend the recoverable resource base, making additional — but currently uneconomical — conventional and unconventional resources commercially attractive. In fact, according to the U.S. Geological Survey, total remaining recoverable oil resources are

Supplying Oil and Gas Demand Will Require Major Investment





more than 70 percent higher now than in 1980, despite production since then of more than about 400 billion barrels.[14]

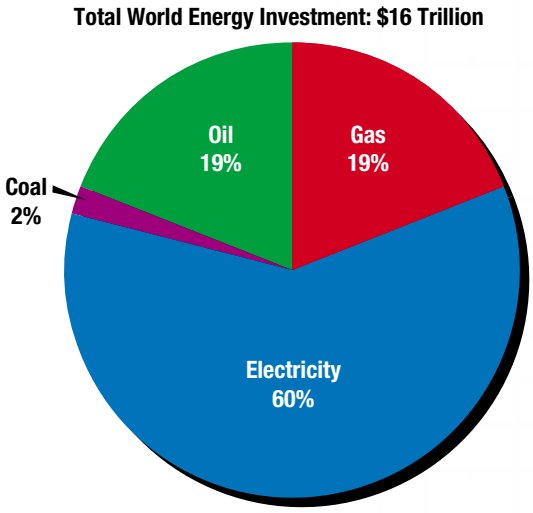
As noted earlier, we project that oil and gas will remain the major forms of primary energy over the outlook period. This predominance is due to their lower costs and ease of use in many applications. The ongoing task of the petroleum industry is to find, produce and deliver this energy in an economical and environmentally sound manner. We will need to develop energy supplies both to meet new demand and to replace supplies from maturing resources. As the chart at left illustrates, the industry will likely need to add some 100 million oil-equivalent barrels per day by 2015 to meet demand — an amount close to 80 percent of today's production levels.

Timely development requires access to discovered resources, economical development of unconventional resources, continued technology advances, adequate financing, and the cooperation of host governments.

The costs of developing these resources are significant. In surveying the exploration and production expenditures for more than 300 oil and gas companies, Lehman Brothers estimated total 2003 exploration and production investment is $133 billion.[15] However, some national oil companies and some small-to-medium petroleum companies were not included in the Lehman survey. Another estimate — shown in the chart below — is provided in the recently released International Energy Agency (IEA) *World Energy Investment Outlook 2003*[16] report, which calculates a total annual **energy** investment of about $530 billion per year. Of that, the IEA believes that about 40 percent, or $200 billion per year, will be required for oil and gas, primarily for exploration, development and production. To put this figure in perspective, $200 billion is larger than the GDP of Norway, whereas $530 billion is larger than the 2004 U.S. national defense budget.

Oil and Gas Investments Up to $200 Billion per Year

World Energy Investment, 2001-2030



Source: IEA

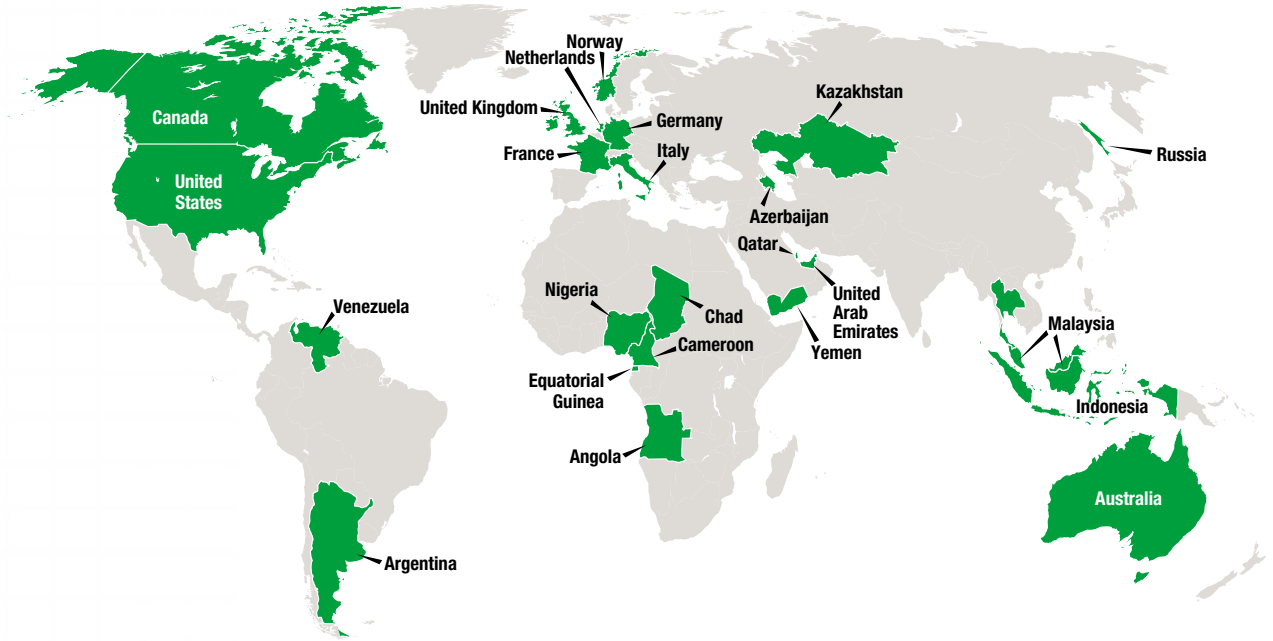
ExxonMobil Investment Approach

The large capital investments needed to meet world energy demand will require a disciplined, well-managed approach, a fundamental strength of ExxonMobil. Capital needs are also complemented by our track record in the development and application of industry-leading technologies. In 2003, we invested about $15 billion in capital and exploration expenditures and about $600 million in research. During the past five years, we have invested about $66 billion in capital and exploration expenditures, and about $3 billion in research.

As most projections predict that oil and gas will continue to meet 60 percent of energy needs in 2020, ExxonMobil continues to focus in this area, in which we have considerable expertise. Providing oil and gas for these future needs will pose a significant challenge, which we are particularly well suited to address. The significant investment that will be needed to advance adequate oil and gas development will place a premium on investment discipline and sound judgment in choosing profitable energy projects.

The business approach we have adopted is first to assess market and technology options thoroughly, as well as business risks. Then — and with an understanding of our competitive strengths and capabilities — we invest where we see profitable opportunities. We continually test our market and technology assumptions, and we manage our performance against key investment and operational indicators, with the primary focus on return on capital employed.

ExxonMobil Production Base



ExxonMobil's size and geographic diversity, and the complementary nature of our Upstream, Downstream and Chemical businesses, moderate the corporation's sensitivity to fluctuations in individual business lines and markets. By taking advantage of synergies among these businesses, ExxonMobil is able to optimize total company performance.

In the Upstream, ExxonMobil participates in every major producing area in the world (*see map opposite*). Our Upstream portfolio spans more than 40 countries. We have a substantial production base in the United States, Canada, Europe and the Asia-Pacific region and are unique in having interests in the four major growth areas of West Africa, the Middle East, the Caspian and Russia. ExxonMobil has the largest resource base of any nongovernment company in the world, with 72 billion oil-equivalent barrels.

In the Downstream, ExxonMobil is a leading fuels refiner and manufacturer of lube basestocks. We have refining operations in 26 countries, retail fuels locations in more than 100 countries, and a lubricants marketing presence in almost 200 countries and territories.

In Chemical, ExxonMobil is a leading producer and supplier of primary petrochemicals. Our Chemical business is competitively advantaged by our advanced technology, integration of more than 90 percent of our chemical assets with petroleum refineries and superior cost structure.

This disciplined approach points us toward investments that are:

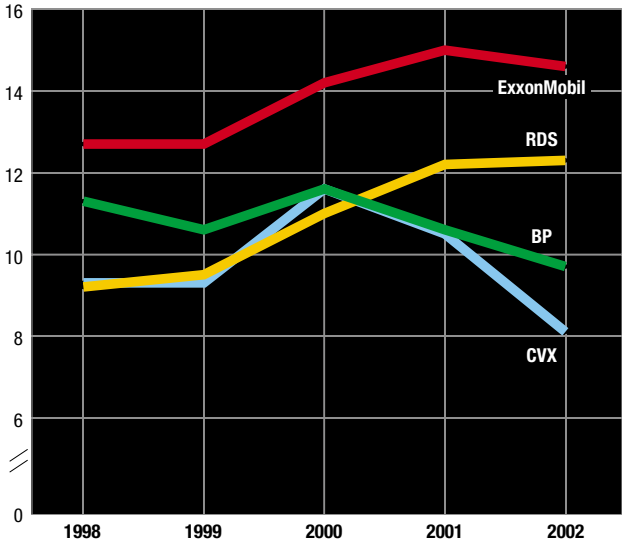
- Technically sound.
- Economically sustainable without government subsidy, thus ensuring profitability under a range of market and government policy conditions.
- Significant enough to be meaningful in the context of our size and the size of the overall energy market.
- Designed carefully to limit their impact on the public and the environment.
- Implemented to be profitable and affordable on an ongoing basis.

Using these criteria, we have demonstrated a successful track record of investment, a track record that has benefited our shareholders while at the same time being of value to energy consumers. For example:

- We have invested so as to position ExxonMobil in attractive business sectors while reducing our exposure to those sectors that fail to meet our investment criteria. Examples of under-performing industries in which we have disinvested include coal extraction and nuclear and solar energy.
- We have a well-balanced and diversified business, with strengths in both business scope (oil, gas, chemicals) and geography.

Return on Capital Employed

Percentage, 5-Year Rolling Average



Calculated based on public information on a consistent basis.

ExxonMobil Investment Approach

- We have made concerted efforts to pace our investments well. This has helped achieve industry-leading returns that have averaged nearly 14 percent over the past decade.

- Our rigorous investment criteria have permitted us to attain industry-leading returns and to avoid asset write-downs representing failed investments that have diverted organization attention and reduced shareholder value in other companies. The chart on page 7 compares ExxonMobil to our key competitors in return on capital employed, or ROCE.

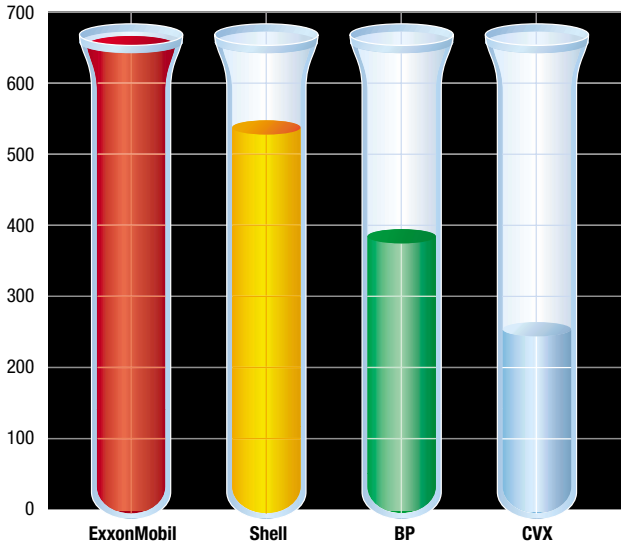
At the same time that we work to ensure that our capital investments will be profitable over the long term, we also strongly believe in investing in research and development as a means to develop potential future profitable business opportunities. That is why we support research to increase energy discovery success, to improve the efficiency of energy use and to develop new energy solutions. Our overall investment in R&D has been and remains greater than that of our competitors (see chart at top right). We balance our technology investment between technology extensions — which can be rapidly deployed to our existing operations — and breakthrough research that could have a significant and lasting impact on the corporation and the industry. Some of the current research areas we are undertaking include:

- Proprietary technologies that have the potential to deliver breakthrough capabilities in direct hydrocarbon detection. This technology could significantly improve the chance of success in finding new resources prior to drilling.

- Liquefied natural gas (LNG) and other gas-commercialization technology to improve the efficiency of liquefaction, transportation and regasification to help satisfy the world's increasing gas needs at affordable economic levels.

Technology Investment

Millions of Dollars, 1997-2002 Average



Based on public information.

- Research on hydrogen production for use in fuel cells with strategic partners for potential new power systems in automobiles.

- More-efficient, cleaner-burning internal combustion engines and engine systems.

- Advanced lubricant formulations to meet stringent emission standards.

- $100 million in groundbreaking research at Stanford University's Global Climate and Energy Project (GCEP) to address future energy needs with approaches that lead to lower greenhouse gas emissions.

OIMS is the foundation of our management of safety, health and the environment.

The rigor and discipline that we use to pursue and manage research projects and that underpin our investment program are also used in our approach to the management of our performance in safety, health and the environment.

The key system that we have used for a number of years in the conduct of our operations and to assess and improve our safety, health and environmental performance is the Operations Integrity Management System, or OIMS. OIMS permits us to measure our progress in these areas, plan future improvements and implement management accountability for results.

For a number of years we have collected and reported data on atmospheric emissions such as nitrogen oxide, ozone and sulfur dioxide. Over the past several years OIMS has been expanded to include the collection and reporting of greenhouse gas emissions for all facilities.

Lloyd's Register Quality Assurance View of OIMS:

"Lloyd's Register Quality Assurance has reviewed ExxonMobil's Operations Integrity Management System and has evaluated it against the requirements of international standard for Environmental Management Systems, ISO 14001…. It is the opinion of Lloyd's Register Quality Assurance that the environmental management components of ExxonMobil's Operations Integrity Management System are consistent with and meet the requirements of the ISO 14001 Environmental Management Systems Standard. We further believe ExxonMobil to be among the industry leaders in the extent to which environmental management considerations have been integrated into its ongoing business processes."

July 1, 2001

Addressing Greenhouse Gas Emissions

ExxonMobil recognizes that although scientific evidence remains inconclusive, the potential impacts of greenhouse gas emissions on society and ecosystems may prove to be significant. To address these risks, we have for many years taken actions to improve efficiency and reduce emissions in our operations and in customer use of our products. We are also working with the scientific and business communities to undertake research to create economically competitive and affordable future options to reduce long-term global emissions.

We are fully aware of the broad public and official interest in this topic, of commitments made by many governments through the United Nations Framework Convention on Climate Change and the Kyoto Protocol to that Convention, and of national legislation to address greenhouse gas emissions.

We participate in voluntary programs that address greenhouse gas emissions, and we are working with governments and business groups to prepare for binding regulations where they are being developed.

Actions now and research for the future underpin our approach to greenhouse gas emissions.

For our part, ExxonMobil has conducted and supported scientific, economic and technological research into greenhouse gas emissions for more than two decades. Overall, our research has been designed to improve scientific understanding, assess policy options and achieve technology breakthroughs that could dramatically reduce greenhouse gas emissions in both industrialized and developing countries.

In the context of the use of petroleum in the overall economy, we estimate that by far the majority of emissions arise from consumer use of fuels (87 percent), with the remainder from petroleum industry operations (13 percent). Therefore, we also undertake research on petroleum manufacturing efficiency improvements, as well as on advanced vehicles and fuels with automobile manufacturers.

Currently, many governments have made commitments to reduce national greenhouse gas emissions under the provisions of the Kyoto Treaty. In several countries, regulations are in the process of being developed to meet these commitments, and ExxonMobil is fully prepared to comply with all laws and regulations in countries where we operate.

Climate: Infinitely More Complex than Weather

The earth has experienced a warming trend in global surface air temperatures during the 20th century,[17] but the cause of this trend and whether it is abnormal remain in dispute. Although recent temperatures are elevated, they are not unprecedented in the geological record, which shows considerable variation as well as previous periods that were as warm as or warmer than today. The variety of factors that appear to have influenced climate when viewed from a geoscience perspective includes:

- Solar radiation
- Orbital changes of the earth
- Asteroid impacts
- Reflectance, circulation and gas composition of the atmosphere
- Current dynamics in the oceans
- Effects of the biosphere, including forest cover and greenhouse gas emissions
- Lithospheric events such as volcanism, continental drift and mountain building.[18]

ExxonMobil has substantial expertise in geoscience, as this is a central discipline in our business success. We support efforts to advance knowledge on many of the topics listed above, including climate modeling; new tools for mapping temperature and geologic uplift and subsidence; and research on such topics as ocean circulation, cloud formation and solar irradiance variability.

Why Energy Efficiency?

ExxonMobil is committed to encouraging energy efficiency because:

- Greater efficiency will prolong the period during which conventional energy supplies will be available for consumer use.
- Efficient use of energy makes energy more affordable.
- Improved efficiency will reduce environmental emissions associated with providing and using energy.

As part of our preparatory work, we and others are working to resolve a number of practical issues related to accomplishing the reduction goals, including measurement of overall greenhouse gases and reductions achieved. We are engaged in discussions with industry groups and with governments to ensure broader understanding of compliance issues and potential carbon-control measures, including carbon trading.

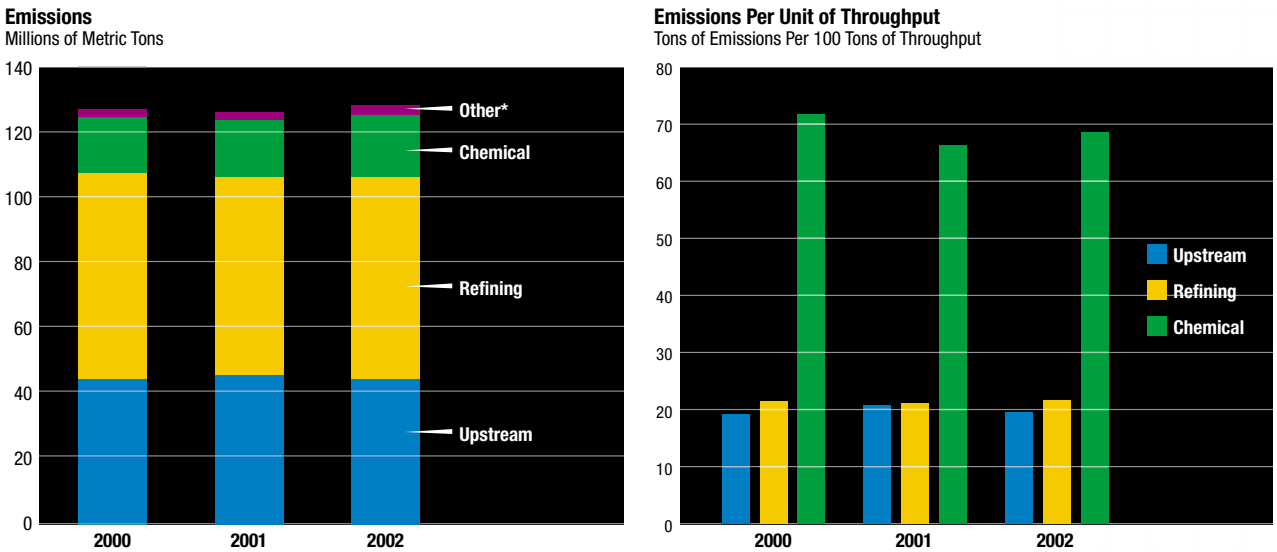
It is our intention to comply in the most cost-effective manner with whatever regulations and mandates issue from these discussions. We will limit the risks that may be posed by new regulations by applying the same disciplined analysis and investment criteria we use for other business challenges and opportunities. We do not believe our operations will be competitively disadvantaged, though some additional costs are likely to result from compliance.

Nearer Term Initiatives

Related to our own operations, ExxonMobil is actively engaged in reducing our energy usage and our greenhouse gas emissions. Five important examples are:

- **Global Energy Management System (GEMS).** The comprehensive GEMS is focused on continually improving energy efficiency. In fact, over a 25-year period, our refineries and chemical plants have improved their energy efficiency by more than 35 percent. Opportunities have been identified to improve energy efficiency by an additional 15 percent. In North America alone, our refineries have been improving their energy efficiency at a rate that is three times better than the industry average.

Greenhouse Gas Emissions (Absolute and Normalized)



Operated direct and indirect sources of CO_2 and methane on a CO_2-equivalent basis.
*Fuels Marketing, Terminals, Pipelines, Lubes, Marine, Research.

- **Cogeneration.** In its application at refineries and gas plants, *cogeneration* is a term used to describe the simultaneous production of electricity and steam using clean-burning natural gas. Cogeneration is nearly twice as efficient as traditional methods of producing steam and power separately. ExxonMobil has more than 80 cogeneration facilities at some 30 locations worldwide, which have reduced carbon dioxide emissions by almost 7 million tons a year from what they would otherwise have been. We are also in the process of expanding our cogeneration capacity by another 30 percent, representing an additional $1 billion investment in new cogeneration facilities.

- **Flare Reduction.** A third method of reducing emissions of greenhouse gases is flare reduction. In Nigeria, ExxonMobil recently announced a project to eliminate gas flaring while at the same time significantly increasing oil production and recovery. This project is expected to get under way in 2006, well ahead of targets set by the Nigerian government. It will reduce greenhouse gas emissions by more than 5 million tons per year at facilities we operate from what they would otherwise have been (or 2 million tons on an equity-share basis). In addition, ExxonMobil is part of the World Bank Gas Flaring Reduction Partnership, which supports national governments and the petroleum industry in their efforts to reduce the flaring and venting of gas, and which is also focused on developing economical alternate-use projects for flare gas.

- **Reporting.** With regard to the reporting of greenhouse gas emissions, we are taking steps to accurately measure and report our own emissions. Our recent greenhouse gas emissions are shown in the chart on page 11. In the past few years we have increased the transparency of our greenhouse gas emissions by publishing them annually in our Corporate Citizenship Report and making them available on our Internet site.

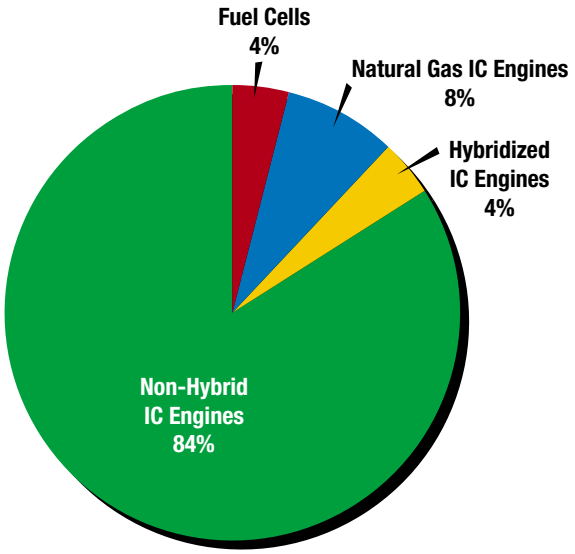
- **Measurements and Guidelines.** We are working with industry, through the American Petroleum Institute and the International Petroleum Industry Environmental Conservation Association, to develop a consistent measurement methodology and transparent guidelines for reporting greenhouse gas emissions, in order that they may be compared on a consistent basis among companies and industries.[19]

Medium Term Initatives

Especially important are the efforts we have under way to increase the supply of cleaner-burning natural gas. Natural gas emits less carbon dioxide than oil when burned, so that more reliance on natural gas will limit carbon increases. Our efforts related to natural gas include:

- **Natural Gas.** Access to a total gas resource base of nearly 185 trillion cubic feet of net discovered resources, including 56 trillion cubic feet of proved reserves. This resource base provides a solid foundation for profitable growth.

Internal Combustion (IC) Engines Remain Primary Technology in 2030

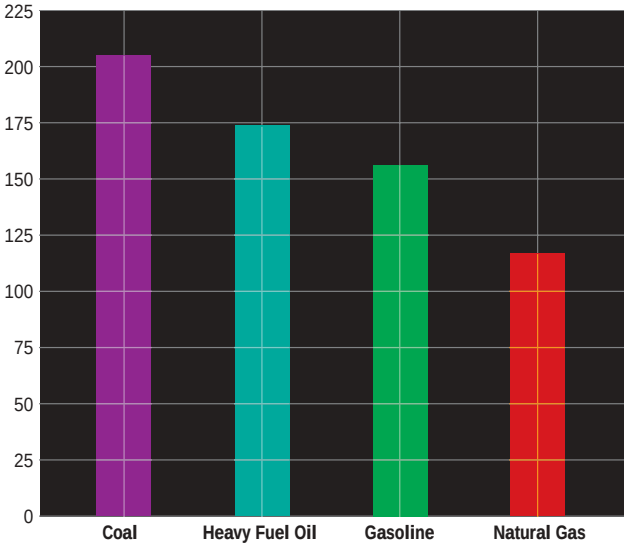


Source: EUCAR

- Balanced Portfolio. A balanced portfolio of proved reserves, with about 27 percent in North America, 44 percent in Europe, 14 percent in Asia-Pacific and 15 percent in other parts of the world. Over the medium term, major development projects are expected to start up in parts of the world, including Qatar, the Netherlands, Norway, Russia, Kazakhstan, Angola and Canada.

Natural Gas Preferred for Reducing Carbon Dioxide Emissions

Pounds of Carbon Dioxide per Million BTU Energy Content



- Equity Positions. Equity positions in many of the largest remote gas accumulations in the world that strongly position us to benefit from new LNG and other gas-commercialization technology. ExxonMobil recently announced a major expansion of its LNG investment plans to bring natural gas from Qatar to the U.S.

- LNG Technology. Technology advances in gas liquefaction, transportation and regasification. The development of larger LNG trains to liquefy the gas, as well as larger, more-efficient ship designs, has resulted in dramatic reductions in expected unit costs.

- R & D. New research and development, notably through advances in high-strength steel, which will permit less-expensive transportation of natural gas through pipelines.[20]

In the medium term, we are also undertaking work on advanced fuels, vehicles and materials. As the chart on page 12, bottom right, shows, automotive industry projections indicate that through 2030 internal combustion engines will continue to power more than 95 percent of all vehicles.[21] Technologies that improve the fuel efficiency and emissions performance of these systems can have a very substantial positive impact on the environment earlier than alternatives and for decades to come.

Many new approaches to traditional internal combustion engine technology have been under investigation by automobile companies and by ExxonMobil:

- One avenue involves research to better optimize fuel/engine systems for higher efficiency and lower emissions. Gasoline and diesel are blends of many types of molecules, and each type behaves slightly differently during combustion. Working with Toyota, we are investigating what happens when different types of molecules are burned in an internal combustion engine.[22] The knowledge gained is expected to lead to new fuel and vehicle systems that have higher efficiency and lower emissions than current engines.

- A second path involves new combustion technologies that have attributes of both gasoline-spark ignition and diesel-compression ignition. Called homogeneous charge compression ignition (HCCI), this technology combines the efficiency of a high-compression diesel engine with the lower emissions of a gasoline engine.[23] The payoff of this research could be substantial. For example, better understanding of fuel chemistry and combustion could lead to 30 percent better fuel efficiency than today's gasoline engines have, with a resulting reduction in smog-causing emissions and carbon dioxide.

Other options can also improve automobile performance significantly.

- High on the list is hybrid-engine technology.[24] Hybrids use a gasoline engine for steady speeds and an electric motor for extra power during the more energy-demanding phases of start-up and acceleration. A battery, which is recharged while driving and braking, powers the electric motor. In cities, where this technology has major advantages, hybrid vehicles deliver a fuel-economy improvement of more than 50 percent.[25] A few models using this technology are on the road today with more planned. Broad deployment of this technology could have a significant impact on CO_2 emissions from personal vehicles.

- Another area in which we contribute is advanced materials for plastics. These offer lower weight and better fuel mileage, and they are recyclable and save energy when reused.[26]

- We have also invested in improved lubricants, including synthetics, which provide benefits of lower emissions and improve fuel economy. Our Mobil-1 and Low Sulfur-Ash-Phosphorus formulations are examples of our efforts in this area. In addition, we have developed long-drain interval lubricants that improve environmental performance by minimizing the amount of waste oil generated.

Longer Term Initiatives

Our long-term efforts related to greenhouse gas emissions are focused on innovative and far-reaching research projects.

Central among these is the Global Climate and Energy Project (GCEP) at Stanford University. Its overarching goal is to undertake research to accelerate the development of commercially viable energy technologies that can substantially reduce greenhouse gas emissions.

GCEP was initiated in November 2002. Its four broad objectives are to:

1. Identify the most promising technologies for low-emissions, high-efficiency energy supplies.

2. Identify barriers to the application of these technologies on a global basis.

3. Conduct research into technologies that will help overcome barriers and accelerate the global application of these technologies.

4. Make research results widely available to the scientific and engineering community through workshops, presentations and journal publications.

GCEP is a 10-year project with total anticipated investments of $225 million, of which ExxonMobil is committed to contributing $100 million. Other project sponsors — General Electric, Toyota and Schlumberger — are prominent companies that represent a diverse mix of business sectors and that have both global reach and strong research and technology capabilities. By combining the world-class research of Stanford with the practical know-how and financial support of major corporations, it is intended that GCEP will be able to push the frontiers of energy technology.

GCEP aims to identify advanced technologies that can be adopted **globally**, not just in industrialized countries, which is important, as 80 percent of growth in carbon emissions through 2020 will occur in developing countries. It will look at the full spectrum of energy resources and end uses, including:

- Improved generation and transmission of electricity
- Advanced transportation options
- Expanded use of hydrogen
- Fuels derived from plants
- Next-generation coal
- Nuclear energy
- Renewable energy

Other Climate-Related Research

GCEP is not the only activity we sponsor to help better understand GHGs and alternative energy. For example, over the past 20 years we have sponsored scientific, technological and economic/policy research at the following institutions:

Institution	Scientific	Technological	Economic/Policy
Carnegie Mellon University	■		
Columbia/Lamont Doherty	■		
Hadley Centre for Climate (UK)	■		
IEA Greenhouse Gas R&D Program		■	
US National Laboratories		■	
Battelle Pacific Northwest Laboratory		■	
Australia Bureau of Agricultural Research and Economics (ABARE)			■
Charles River Associates			■
Massachusetts Institute of Technology	■	■	■
Stanford University		■	■

The infrastructure required to produce and deliver the various energy sources will be investigated, as will the needed advances in materials, combustion technology and energy-systems management.

The results of GCEP's research are expected to provide new information for ExxonMobil's own planning and business strategy and investment activities. This information will assist in ensuring that we have early insight into promising avenues for future business activities.

The seriousness with which we approach the issues of climate and greenhouse gases is evidenced by the array of scientific investment and operational approaches we have adopted in our own facilities as well as the range of research that we support — both in house and in partnership with others.

It is our expectation that from among the multiple efforts that we and others are undertaking, new technologies will eventually emerge that can be successfully applied around the world. Moreover, our active involvement in the development of these technologies will provide competitive advantages that will be available to ensure future commercial success. This proactive and multifaceted approach ensures that the interests of shareholders in mitigating risks are properly addressed.

Renewable Energy Alternatives

The general appeal of renewable energy is associated with its potential for long-term sustainability and environmental benefits. We understand this appeal, and we are open to considering investments in renewable energy which meet our investment criteria and can compete favorably among other opportunities.

Our investment criteria emphasize investment in areas where we have both relevant and leading-edge technology. Renewables, such as solar and wind power, do not meet either of these criteria.

Renewable energy presents business and investment challenges, with limited promise of near-term profitable investment, even with government subsidies.

In our view, *current* renewable technologies do not offer near-term promise for profitable investment relative to attractive opportunities that we see in our core business. Therefore, we have chosen not to pursue investments in renewable energy options.

We believe that companies interested in current renewable technologies should invest if they believe profit opportunities exist. However, we would note that other major energy companies have in the past year announced asset write-downs — amounting to a total of $172 million — for investments in solar energy.[27] This is a telling indicator of the merits of our approach.

Nevertheless, we are closely monitoring technology developments in renewables. This active monitoring, coupled with our considerable financial strength, will, we believe, permit us to become active in relevant technology developments and to invest in a timely manner in the future if developments in renewables provide profitable opportunities.

Our primary focus with regard to renewables is on research to make promising options commercially viable, as for example through the Global Climate and Energy Project and other such initiatives discussed previously. Although the research results will be made broadly available, as a sponsor ExxonMobil will have early insight on new technologies for potential commercialization.

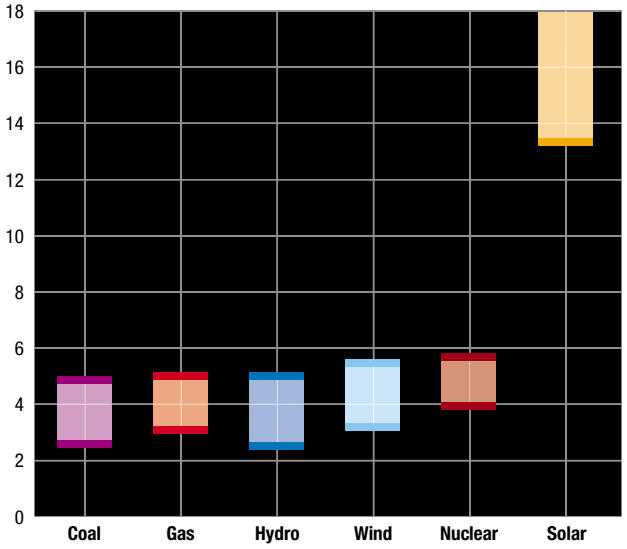
A more thorough explanation of our current assessment of specific alternative energy options follows.

Power Generation

Currently, renewable resources account for approximately 8 percent of electricity generated in the United States, with the majority coming from hydroelectric facilities. When the scope of renewables is narrowed to wind and solar the contribution to total electricity generated drops to 0.2 percent. These sources are expected to grow at more than 9 percent per year between now and 2020, yet their contribution to total electricity will rise to only about 1 percent of **total** electricity sales by that year.[28]

Costs Converging Though Wind, Nuclear, Solar Remain Higher Cost for Power Generation

Cents per Kilowatt Hour, Indicative Range



A number of factors discourage our investment in renewables for power generation:

- Despite cost reductions over the past decade, renewable technologies still require substantial government support to be competitive. The chart above illustrates the cost of generating electricity from both renewable and non-renewable sources.[29]

The British Wind Energy Association has noted the difficulties facing the wind energy industry, and in recent testimony before a committee of the House of Lords stated that "there is a high degree of uncertainty over the value of wind generated electricity after 2010 … making it extremely difficult for projects planned … to obtain the necessary financing."[30]

- Currently, the most competitive renewable source is wind power. In some applications, wind-generated electricity can be cost-competitive with that generated from natural gas, but it relies largely on government subsidies to be economical. As the duration of these subsidies is uncertain, investment in wind projects represents a higher risk than alternative investments. At the 2003 American Wind Association Conference, the CEO of a major wind-turbine manufacturer stated that "the political instability facing the wind industry in the United States effectively thwarts the ability of developers and utilities alike to engage in meaningful long-term planning."[31]

- Solar energy remains far more costly except in limited applications. Existing solar photovoltaic technology is very energy-intensive, requiring manufacturing energy equal to about two years of the output of the solar device. These factors, coupled with the large land areas required to produce energy on a power-plant scale, make current solar technologies about five times more costly than conventional electricity generation, and we believe they are unattractive investments for ExxonMobil.[32]

- The ability of wind and solar technologies to contribute to electric power supply is fundamentally limited by intermittence. Stable electric grids require traditional generating facilities or costly backup systems to ensure uninterrupted supply to consumers on cloudy days, at night, or at times the winds fail. These aspects limit the ability of wind and solar energy to contribute to electricity supplies, and they increase the overall costs of integrated power supply systems.

- Hydropower, geothermal power and municipal solid waste account for 94 percent of renewable electricity generation today, and their contribution to electricity generation is expected to grow slowly over the next 20 years. Growth of these technologies will be limited by considerations related to land use, facility siting and resource availability. None offers a competitive advantage for ExxonMobil.

In summary, though each of the renewable power-generation options has a place, the limitations of current technologies preclude any of them being suitable for meeting a large-enough share of long-term energy supply needs to displace conventional energy sources.[33] Most renewable energy options require subsidies to be competitive,[34] and even when they are subsidized, acceptable returns are far from certain.

Between now and 2020, electricity generation from natural gas is expected to grow 5.5 percent a year. Although the growth rate is lower than that of wind and solar, the absolute growth in electricity generated from natural gas is projected to be more than 25 times that generated from renewables. This fact, coupled with ExxonMobil's strong technology and business base in natural gas, makes this a more attractive investment option.

Automotive Fuels

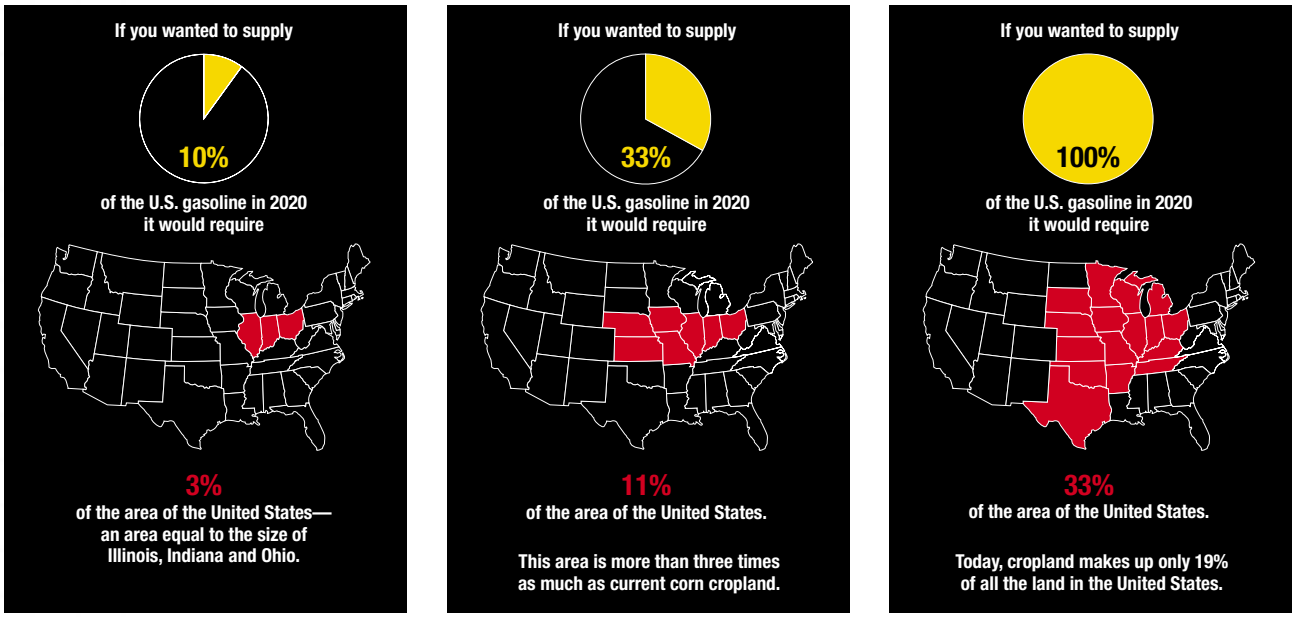
In addition to use in power generation, renewables also continue to have a role in automobile fuels.

In the *shorter term* (*through 2020*), most approaches being pursued by the automobile industry and by ExxonMobil are focused on improving the efficiency of **conventional** fuels use, not on alternative fuels, as we have discussed in a previous section.

One potential option for alternative fuel is the production of ethanol from corn or other crops. Cultivation of crops for use as fuel requires substantial land that would otherwise be available for food,

U.S. Biofuels Land Requirements Sizable

Percent of U.S. Land Needed to Supply Corn Ethanol

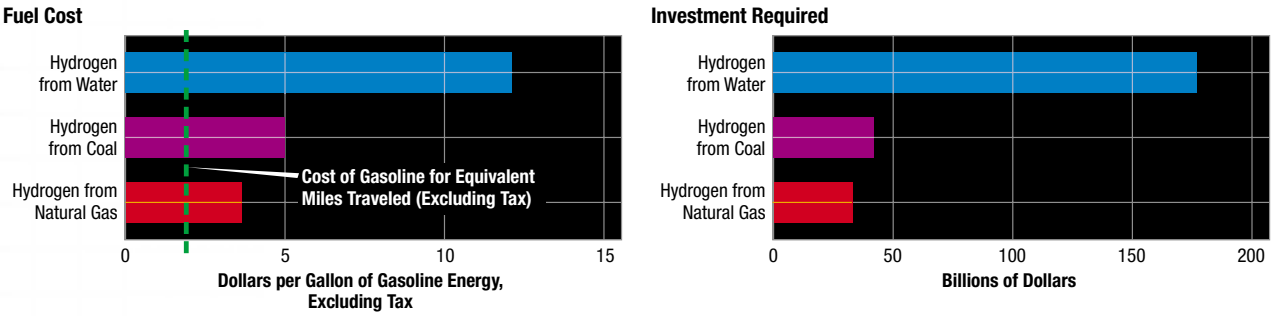


forests or other use.[35] With current technology, ethanol also costs consumers more than gasoline does, unless it is subsidized, and it requires substantial inputs of fossil fuels for both the production of the crops and the conversion into fuel.[36] Additionally, regulations governing ozone emissions can be met without the addition of ethanol to conventional gasoline.[37] Therefore, we have chosen not to pursue investments in ethanol. We are, however, complying with all government ethanol mandates by purchasing ethanol from third-party providers.

In the *longer term* (*past 2020*), hydrogen is often cited as a potential option. In fact, there is significant research under way related to automotive fuel cell systems powered by hydrogen.[38] Hydrogen is appealing as it offers the potential for efficient, emissions-free vehicles, and can be produced from multiple primary energy sources.

Hydrogen, while abundant, must first be produced from water or hydrocarbons. This step requires the use of energy generated from primary sources: oil, gas, coal, nuclear or renewables. It is important to

Hydrogen Cost and Investment for 10 Percent of U.S. Fleet in 2020



understand the impact on the amount of additional primary energy that will be required and also the full supply-chain costs and greenhouse gas emissions associated with hydrogen production, distribution and consumption. A number of studies conducted by different sponsors in different regions have assessed the options. All have concluded that there is only a moderate (approximately 11 to 35 percent) reduction in full-cycle CO_2 emissions for hydrogen fuel cell vehicles compared with hybrid technology.[39]

"On the best-case scenario, fuel cells are expected to become viable only beyond 2020."

Banc of America Securities[40]

A number of challenges must be met before hydrogen becomes a viable transportation fuel. Among these are safety and the high cost of production and distribution. While hydrogen has been used safely for decades by highly trained technicians in industrial settings, its characteristics pose unique challenges for use in consumer markets. The small size of hydrogen molecules makes them more likely to leak than any other fuel. This, coupled with flammability and explosive ranges that are respectively 10 to 20 times those of gasoline, and the ability to ignite hydrogen gas with only a static spark, create significant risks that will need to be managed if hydrogen is to be used safely. Hydrogen also delivers very little energy per unit of volume. As a result, very high pressures (~10,000 psi) will be required to achieve acceptable vehicle driving ranges if compressed hydrogen gas is used. Gases at these high pressures create risks independent of the type of fuel.

The high cost of producing and distributing hydrogen results in a fuel cost that is twice that of gasoline on a cents-per-mile-driven basis. As shown in the charts at the bottom of page 18, based on an analysis by SFA Pacific in the U.S., the costs and investments are highest when hydrogen is produced from renewable energy sources (wind/solar/biomass) and lowest when it is produced from natural gas.[41] These investment levels present an affordability challenge to any economy and are driven in part by the fact that much of the existing natural gas infrastructure cannot be used for hydrogen distribution due to incompatibilities.

Interest in the use of renewable energy to make hydrogen is high, as this is the only option that would result in a "zero emissions" transportation fuel system on a total supply-chain basis. There are, however, a number of additional challenges associated with the manufacture of hydrogen from renewable energy. Currently, using average costs for renewables in the U.S., hydrogen is five times more expensive than gasoline when produced from wind and 17 times more expensive when produced from solar energy. Land requirements are also significant.[42]

Finally, one must consider whether hydrogen use for transportation fuel is the most appropriate use of renewable resources. A unit of wind or solar energy that is used to displace coal in power generation saves 2.5 times more carbon dioxide than using the same unit of wind or solar energy to replace gasoline with hydrogen.[43]

ExxonMobil is actively engaged, both internally and through industry groups, in a range of activities to address the many challenges associated with hydrogen. Some of these activities include the Department of Energy's Freedom Car and Fuel Partnership, the California Fuel Cell Partnership, and the U.S. Department of Energy Hydrogen Safety Review Panel. The focus of these various efforts includes: research on the production and distribution of hydrogen; interactions with government, industry and safety authorities on codes and standards; and analysis of energy supply implications.

We and others believe that resolving the issues surrounding hydrogen will take many years, perhaps decades. Therefore, significant commercialization or broad marketplace deployment is not likely for some time. This general view is shared by DOE and Honda, among others.[44]

Summary

We have addressed, and continue to address, the challenges discussed in this report with a disciplined approach that delivers industry-leading returns. In doing so we are particularly mindful of our responsibility to our shareholders, customers, employees and the public at large. Therefore, we:

- Have a robust portfolio of diverse opportunities to develop reliable, safe and affordable energy resources, and we are able to do so in an economical and environmentally and socially responsible manner.
- Manage a well-balanced and diversified business, with strengths both in business scope and geography.
- Invest in projects and programs that are economically sound while improving our energy-use efficiency and reducing emissions in our own facilities.
- Conduct research in technology that will enable our customers to be more efficient in their use of energy for power and transportation.
- Maintain a leading effort in research and development on potential options that promise competitive advances and that can form the foundation for profitable, large-scale commercialization in the future. We do so through our own technology research, by keeping abreast of the advances of others, and by supporting leading research by third parties (both on basic science and on new energy approaches).

Our strategy includes expert analysis and consultation with others, investment discipline, broad diversity in our energy portfolio, and breadth of research on energy-related issues and opportunities. We believe our business strategy and execution are in the fundamental financial interests of our shareholders and have positive benefits for society and the environment.

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